Declaration of Christian Almberg Under 37 CFR 1.132

In re U.S. Patent Appln. No. 10/684,585

I, Christian Almberg, of Grönstensvägen 15, 435 41 Mölnlycke, Sweden, hereby declare that:

1. I am the co-inventor of the above-identified Patent Application.

2. I have been asked by the Patent Department of my employer, SCA Hygiene Products AB, S-405 03 Göteborg, to explain, as far as I can recall, the background to the above-identified invention.

3. In early 2000, my employer had furnished two nursing homes (St. Anna, Herentals, Belgium and Ter Berken, Roeselare, Belgium) with trial samples of a new belted product in order to evaluate the performance of the product in real-life conditions. During the trial, we were made aware of the fact that samples were failing due to the belt-halves detaching from the absorbent chassis. I was asked by our project manager, Kerstin Björnson, to investigate the cause of failure and, if possible, to propose a remedy.

4. The investigation showed that, although the belt halves seemed to be adequately attached when they were pulled in their length direction, i.e. the transverse direction of the product, they had a tendency to fail at relatively low forces if the forces were applied at increasing angles to the transverse direction.

5. As stated in the specification, depending on the size of the wearer, the angle α between the belt halves and the absorbent structure will vary, thereby varying the tension forces exerted on the joint between the belt halves and the absorbent structure.

6. Together with my colleague, Lucas Bäck, we sought a solution to the problem of the belt halves releasing prematurely at increasing angles to the transverse direction. We were able to establish that there existed a surprising and unexpected relationship for a given force between the angle at which the force was applied and the time it took for the belt half to become detached from the product. For a product to be sufficiently reliable in use, we could ascertain for what minimum periods of time the joint between the belt half and the absorbent chassis would have to withstand a particular force at a particular angle.

7. We determined that when each of said joints between each said belt half and said absorbent structure is such that when each said belt half is subjected to a tension force of 35 N acting along said longitudinal axis of the belt and said longitudinal axis of the belt creates an angle (α) to said transverse axis of said absorbent structure, and when the following minimum average release times (t) of each said belt half from said absorbent structure were attained:

When α = 10°, t ≥720 seconds;
When α = 20°, t ≥330 seconds;
When α = 25°, t ≥240 seconds;
When α = 30°, t ≥180 seconds; and
When α = 40°, t ≥75 seconds;

then the aforementioned problems of product failure were resolved.

8. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that wilful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such wilful false statements may jeopardize the validity of the application or any patent issued thereon.

Gothenburg, June 2006-06-29

Christian Almberg